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EXAMINER	
MORRISON, THOMAS A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,772	YUN ET AL.	
	Examiner	Art Unit	
	Thomas A. Morrison	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *1-10,16-18,24,25 and 29-31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-15,19-23,26-28 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/07/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 20 and 26 are objected to because of the following informalities: (1) "the paper" in lines 7-8 of claim 20 should be – the papers --; (2) "the determination" in line 5 of claim 26 should be -- the detection --; and (3) "determining" in line 9 of claim 26 should be -- detecting --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-15, 19 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11 and 14 both recite, "at least one friction member installed to the main body to **change a structure** of the friction member". (emphasis added). This recitation appears to be inaccurate. There does not appear to be any change in the structure of the friction member whatsoever. Rather, it appears that the angle of the friction member is what is changed according to the type of paper to be fed.

Regarding claim 15, it is unclear how many different cam projections are claimed.

Claim 19 recites, "dynamically changing a structure of a friction member". This recitation appears to be inaccurate. There does not appear to be any change in the structure of the friction member whatsoever. Rather, it appears that the angle of the friction member is what is changed according to the type of paper to be fed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 19-21, 23 and 26-28, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication No. 4-197931.

Regarding independent claim 19, Figs. 1-2 and the English Abstract disclose a method to pick up a plurality of papers in a printing apparatus, including

automatically detecting (via sensor 29 and/or read part 30) whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type (see also English Abstract); and

dynamically changing a structure of a friction member (including 3) and pivotally moving the friction member (including 3) applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up. More specifically, the friction member (including 3) has a feed belt (8) that applies friction resistance to a leading edge of each paper that resists slipping of such paper relative to the feed belt (8) during feeding of such paper.

Regarding independent claim 20, Figs. 1-2 and the English Abstract disclose a method to pick up paper in a printing apparatus, including

automatically detecting (via sensor 29 and read part 30) types of the paper to be picked up and supplying a signal indicative of types of the paper to be picked up (via sensor 29 and read part 30);

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type based on the signal (English Abstract);

pivotally moving a friction member (including 3) upon classifying the paper as the first type or the second type, the friction member (including 3) applying a frictional resistance to a leading edge of each of the paper; and

picking up the paper when the friction member (including 3) has been moved based on the classification. More specifically, the friction member (including 3) has a feed belt (8) that applies friction resistance to a leading edge of each paper that resists slipping of such paper relative to the feed belt (8) during feeding of such paper.

Regarding claim 21, Figs. 1-2 and the English Abstract disclose that the operation of supplying the signal comprises:

supplying a detection signal via a detection sensor (29) that detects the types of paper loaded in a paper feeding section (1) provided to the printing apparatus.

Regarding claim 23, the English Abstract discloses that the structure of the friction member (including 3) allows a predetermined frictional force to be applied to a leading edge of the paper.

Regarding claim 26, Figs. 1-2 and the English Abstract disclose a method to pick up paper in a printing apparatus having friction member, comprising:

automatically detecting (via sensor 29 and read part 30) whether the paper belongs to a first type of paper or a second type of paper (English Abstract); and

pivotally moving the friction member (including 3) based on the determination, the friction member (including 3) applying frictional resistance to a leading edge of the paper, wherein an angle formed between the friction member (including 3) and the leading edge of the paper when the friction member (including 3) is moved in a first direction is larger than an angle formed when the friction member (including 3) is moved in a second direction upon determining that the paper belongs to the first type of paper. More specifically, the friction member (including 3) has a feed belt (8) that applies friction resistance to a leading edge of each paper that resists slipping of such paper relative to the feed belt (8) during feeding of such paper.

Regarding claim 27, a frictional resistance applied to the leading edge of the paper by the friction member (including 3) will increase when the angle formed between the friction member (including 3) and the leading edge of the paper is reduced.

Regarding claim 28, a frictional resistance applied to the leading edge of the paper by the friction member (including 3) will decrease when the angle formed between the friction member (including 3) and the leading edge of the paper is increased.

4. Claims 11-12, 19-21, 23, 26-28 and 32, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,449,162 (Sato et al.).

Regarding claim 11, Fig. 10 discloses a method to pick up a paper in a printing apparatus having a main body, at least one friction member installed to the main body to change a structure of the friction member to form an angle in relation to a leading edge of a sheet of paper picked up from a paper feeding section and elastically biased in a first direction; a cam unit movably installed to the main body to forcibly move the at least one friction member to a second direction while the cam unit is being moved by driving force; and a driving force supply unit movably installed to the main body to supply driving force to the cam unit at the time of being moved, the method including

automatically detecting (via sensor 133a and 133b or sensor 340 and 350) a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up (i.e., signal from sensor 133a and 133b or sensor 340 and 350);

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type of paper based on the signal (see, e.g., column 13, lines 19-32);

supplying a driving force to the cam unit (including 130) when the paper is classified as the first type of paper;

pivotally moving (about 128) the at least one friction member (including 126) to the second direction by driving the cam unit (including 130), the friction member

(including 126) applying frictional resistance to a leading edge of the sheet of paper; and

picking up the paper (via 124) from the paper feeding section (near 122) when the at least one friction member (including 126) has been pivotally moved in the second direction.

Regarding claim 12, Fig. 10 shows that the operation of supplying the signal comprises: supplying a detection signal from a detection sensor (i.e., sensor 133a and 133b or sensor 340 and 350) that detects the type of paper (i.e., thick or thin paper) loaded in the paper feeding section provided to the main body.

Regarding claim 19, Fig. 10 discloses a method to pick up a plurality of papers in a printing apparatus, including

automatically detecting (via sensor 133a and 133b or sensor 340 and 350) whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type (see column 13, lines 19-25); and

dynamically changing a structure of a friction member (including 126) and pivotally moving the friction member (i.e., pivotally moving elements 127 and 126) applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up. See, e.g., Fig. 10 and column 12, line 52 to column 13, line 50.

Regarding claim 20, Fig. 10 discloses a method to pick up paper in a printing apparatus, including

automatically detecting (via sensor 133a and 133b or sensor 340 and 350) types of the paper to be picked up and supplying a signal indicative of types of the paper to be picked up (e.g., via sensor 133a and 133b or sensor 340 and 350);

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type based on the signal (see, e.g., column 13, lines 19-32);

pivotally moving a friction member (including 126) upon classifying the paper as the first type or the second type, the friction member (including 126) applying frictional resistance to a leading edge of each of the paper; and

picking up the paper (via 124) when the friction member (including 126) has been moved based on the classification.

Regarding claim 21, Fig. 10 discloses that the operation of supplying the signal comprises: supplying a detection signal via a detection sensor (sensor 133a and 133b or sensor 340 and 350) that detects the types of paper loaded in a paper feeding section (near 122) provided to the printing apparatus.

Regarding claim 23, Fig. 10 shows that the structure of the friction member (including 126) allows a predetermined frictional force to be applied to a leading edge of the paper.

Regarding claim 26, Fig. 10 discloses a method to pick up paper in a printing apparatus having friction member, comprising:

automatically detecting (via sensor 133a and 133b or sensor 340 and 350) whether the paper belongs to a first type of paper or a second type of paper (see e.g., column 13, lines 19-32); and

pivotally moving the friction member (including 126) based on the determination, the friction member (including 126) applying frictional resistance to a leading edge of the paper, wherein an angle formed between the friction member (including 126) and the leading edge of the paper when the friction member (including 126) is moved in a first direction is larger than an angle formed when the friction member (including 126) is moved in a second direction upon determining that the paper belongs to the first type of paper.

Regarding claim 27, a frictional resistance applied to the leading edge of the paper by the friction member (including 126) will increase when the angle formed between the friction member (including 126) and the leading edge of the paper is reduced.

Regarding claim 28, a frictional resistance applied to the leading edge of the paper by the friction member (including 126) will decrease when the angle formed between the friction member (including 126) and the leading edge of the paper is increased.

Regarding claim 32, Fig. 10 discloses a method for feeding a paper in a printing apparatus using a friction member pivotally attached to a paper feeding section of the printing apparatus, comprising:

determining whether the paper belongs to a first type of paper or a second type of paper having greater thickness than the first type of paper based on stored information indicative of a type of paper (see, e.g., column 10, lines 24-36); and

automatically adjusting the friction member (including 126) based on the determining to dynamically change an angle formed between the friction member (including 126) pivotally attached to the paper feeding section (i.e., the paper feeding section is located in the central region of the apparatus shown in Fig. 10) and a leading edge of a sheet of paper picked up from the paper feeding section, the friction member (including 126) applying frictional resistance to a leading edge of the paper. Pivoting occurs about element 128.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,449,162 (Saito et al.) as applied to claims 11 and 20 above, and further in view of U.S. Patent No. 6,002,891 (Shin). The Saito et al.

patent discloses a paper handling apparatus with a controller that receives a signal indicative of a paper type (e.g., based on paper thickness) from a detector (e.g., sensor 133a and 133b or sensor 340 and 350) and then outputs a signal to control the paper handling apparatus, but Saito et al. does not specifically state that the controller supplies a signal from a memory with stored information in relation to types of paper. See, e.g., Fig. 10 and column 13 of the Saito et al. patent.

The Shin patent discloses that it is well known to provide a paper handling apparatus with a controller that receives a signal indicative of a paper type (e.g., thick paper or thin paper) from a sensor (500), and then compares the received signal to a look-up table with information related to paper type, in order to automatically output a signal that properly corresponds with the detected paper type, for operating the paper handling device of Shin. See, e.g., Figs. 3-4 and column 4, lines 14-28 of Shin. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the control method of Shin in the environment of the Saito et al. apparatus to have the controller of Saito et al. automatically output a control signal that properly corresponds with the detected paper type from a memory with stored information in relation to the types of paper (i.e., the look-up table in the controller), because this offers a more accurate control method than that of Saito et al. Accordingly, all of the limitations of claims 13 and 22 are met.

6. Claims 11, 15, 19-20, 23 and 26-28, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Publication No. 57-180543 in view of U.S. Patent No. 5,449,162 (Saito et al.).

Regarding independent claim 11, Figs. 1-3 and the English Abstract of Japanese Publication No. 57-180543 disclose a method to pick up a paper in a printing apparatus having a main body, at least one friction member installed to the main body to change a structure of the friction member to form an angle in relation to a leading edge of a sheet of paper picked up from a paper feeding section and elastically biased in a first direction; a cam unit movably installed to the main body to forcibly move the at least one friction member to a second direction while the cam unit is being moved by driving force; and a driving force supply unit movably installed to the main body to supply driving force to the cam unit at the time of being moved, the method including

detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up (detecting and supplying signals via operated switches 27-29. See also English Abstract);

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type of paper based on the signal (see English abstract of Japanese Publication No. 57-180543);

supplying a driving force to the cam unit (including 21) when the paper is classified as the first type of paper;

pivotally moving the at least one friction member (13) to the second direction by driving the cam unit (including 21), the friction member (13) applying frictional resistance to a leading edge of the sheet of paper; and

picking up the paper from the paper feeding section (near 12 in Fig. 2) when the at least one friction member (13) has been pivotally moved in the second direction.

Regarding independent claim 19, Figs. 1-3 and the English Abstract of Japanese Publication No. 57-180543 disclose a method to pick up a plurality of papers in a printing apparatus, including

detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type (detecting via operated switches 27-29. See English Abstract); and

dynamically changing a structure of a friction member (13) and pivotally moving the friction member (13) applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up.

Regarding independent claim 20, Figs. 1-3 and the English Abstract of Japanese Publication No. 57-180543 disclose a method to pick up paper in a printing apparatus, including

detecting types of the paper to be picked up and supplying a signal indicative of types of the paper to be picked up (detecting and supplying signals via operated switches 27-29);

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type based on the signal (English Abstract);

pivotally moving a friction member (13) upon classifying the paper as the first type or the second type, the friction member (13) applying frictional resistance to a leading edge of each of the paper; and

picking up the paper when the friction member (13) has been moved based on the classification.

Regarding independent claim 26, Figs. 1-3 and the English Abstract of Japanese Publication No. 57-180543 disclose a method to pick up paper in a printing apparatus having friction member, comprising:

detecting whether the paper belongs to a first type of paper or a second type of paper (detecting via operated switches 27-29); and

pivotally moving the friction member (13) based on the determination, the friction member (13) applying frictional resistance to a leading edge of the paper, wherein an angle formed between the friction member (13) and the leading edge of the paper when the friction member (13) is moved in a first direction is larger than an angle formed when the friction member (13) is moved in a second direction upon determining that the paper belongs to the first type of paper. See, e.g., English Abstract and Figs. 1-3.

With regard to independent claims 11, 19, 20 and 26, the friction member (13) has an outer surface that applies friction resistance to a leading edge of each paper, which resists slipping of such paper relative to the friction member (13) during feeding of such paper. In fact, Japanese Publication No. 57-180543 discloses the claimed invention, except that this publication discloses the operation of paper quality selection

buttons and switches 27-29 that is detected as an indication of the type of paper, and then signals indicative of the paper type are supplied to operate the device, rather than automatic detecting of a paper type and supplying signals indicative of the paper type.

The Saito et al. patent discloses that it is well known to provide a paper feeding device (Fig. 10) with a sensor (133a and 133b or sensor 340 and 350) for the purpose of automatically detecting the thickness of paper to be fed and supplying signals indicative of such thickness to a controller to automatically control the position of a friction member (including 126) without the need for any human intervention. See e.g., columns 12 and 13 of Saito et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Japanese Publication No. 57-180543 with a sensor for automatically detecting the thickness of paper to be fed and supplying signals indicative of such thickness to automatically control the position of the friction member (13) of Japanese Publication No. 57-180543 without the need for any human intervention, since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner, 120 USPQ 192.* One of ordinary skill in the art would have been motivated to provide the apparatus of Japanese Publication No. 57-180543 with a sensor for automatically detecting the thickness of paper to be fed and supplying signals indicative of such thickness to automatically control the position of the friction member (13) of Japanese Publication No. 57-180543, because the automatic position control method of Saito et al. eliminates human intervention, and therefore, provides a more accurate control

method than that of Japanese Publication No. 57-180543. Thus, all of the limitations of independent claims 11, 19, 20 and 26 are met.

Regarding dependent claim 15, as best understood, Figs. 1-3 and the English Abstract of Japanese Publication No. 57-180543 disclose that the operation of moving the at least one friction member (13) in the second direction comprises:

contacting a link arm (14) with the driving force supply unit (including 15) and receiving driving force to pivot the link arm (14), the link arm (14) being pivotally installed in the main body;

connectively rotating a camshaft (23) linked to the link arm (14)(i.e., linked via 21, 19, 18, 16 and 15), the camshaft (23) having at least one cam projection (i.e., projection on 21) projecting from the camshaft (23) and

compressing the rear surface of the at least one friction member (13) in the second direction while a cam projection (projection on 21) is being rotated along with the camshaft (23), wherein the cam unit (including 21) includes the camshaft (23) having the at least one cam projection (on 21).

Regarding dependent claim 23, Figs. 1-3 and the English Abstract of Japanese Publication No. 57-180543 disclose that the structure of the friction member (13) allows a predetermined frictional force to be applied to a leading edge of the paper.

Regarding dependent claim 27, with regard to Japanese Publication No. 57-180543, a frictional resistance applied to the leading edge of the paper by the friction

member (13) will increase when the angle formed between the friction member (13) and the leading edge of the paper is reduced.

Regarding dependent claim 28, with regard to Japanese Publication No. 57-180543, a frictional resistance applied to the leading edge of the paper by the friction member (13) will decrease when the angle formed between the friction member (13) and the leading edge of the paper is increased.

Response to Arguments

7. Applicant's arguments with respect to claims 11, 15, 19-20, 23 and 26-28 in view of Japanese Publication No. 57-180543 have been considered but are moot in view of the new ground(s) of rejection.

With regard to the rejection of claims 19-21, 23 and 26-28 in view of Japanese Publication No. 4-197931, applicant argues

> Therefore, as JP '931 does not discuss or suggest "automatically detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type; and dynamically changing a structure of a friction member and pivotally moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up," as recited in independent claim 19, and similarly in independent claims 20 and 26, claims 19, 20 and 26 patentably distinguish over the reference relied upon.

The examiner disagrees. Sensor 29 and/or read part 30 automatically detect(s) whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type. The thickness of the sheet of paper specifies the type of paper. Fig. 1 shows movement arrows “A” and “A” of an element

that pulls a spring (10) to pivot element (3) to pickup sheets. Thus, Fig. 1 shows dynamically changing a structure of a friction member (including 3) and pivotally moving the friction member (including 3) applying frictional resistance to a leading edge of each of the plurality of papers (2) based on the detection so that each of the plurality of papers are separately picked up. The friction member (including 3) has a feed belt (8) that applies friction resistance to a leading edge of each paper that resists slipping of such paper relative to the feed belt (8) during feeding of such paper.

Next, applicant argues that

> Claims 21, 23 and 27-28 depend either directly or indirectly from independent claims 19, 20 and 26 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 21 recites that "the operation of supplying the signal comprises: supplying a detection signal via a detection sensor that detects the types of paper loaded in a paper feeding section provided to the printing apparatus."

The examiner disagrees. Figs. 1-2 and the English Abstract of Japanese Publication No. 4-197931 disclose that the operation of supplying the signal comprises: supplying a detection signal via a detection sensor (29) that detects the types of paper (i.e., thick or thin paper) loaded in a paper feeding section provided to the printing apparatus.

With regard to the rejection of claims 11-12, 19-21, 23, 26-28 and 32 in view of U.S. Patent No. 5,449,162 (Saito et al.), applicant argues

> Saito does not discuss or suggest "pivotally moving the at least one friction member to the second direction by driving the cam unit," does not discuss or suggest dynamically changing a structure of a friction member and pivotally moving the friction member based on the detection so that each of the plurality of papers are separately picked up," and does not discuss or suggest "automatically adjusting the friction member based on

> said determining to dynamically change an angle formed between the friction member pivotally attached to the paper feeding section and a leading edge of a sheet of paper picked up from the paper feeding section," as recited in independent claims 11, 19 and 32, and similarly in claims 20 and 26.

The examiner disagrees. Fig. 10 and column 12, line 52 to column 13, line 50 of Saito et al. disclose pivotally moving the at least one friction member (including 126) about element (128) to the second direction by driving the cam unit (including 130).

In as much as Figs. 1-8 of the instant application disclose dynamically changing a structure of a friction member and pivotally moving the friction member based on the detection so that each of the plurality of papers are separately picked up, so does Saito et al. In particular, Fig. 10 and column 12, line 52 to column 13, line 50 of Saito et al. disclose dynamically changing a structure of a friction member (including 126) and pivotally moving (about 128) the friction member (including 126) based on the detection so that each of the plurality of papers are separately picked up.

In addition, Fig. 10 and column 12, line 52 to column 13, line 50 of Saito et al. disclose automatically adjusting the friction member (including 126) based on the determining to dynamically change an angle formed between the friction member (including 126) pivotally attached to the paper feeding section and a leading edge of a sheet of paper picked up from the paper feeding section.

Then, applicant argues that

> Saito does not discuss or suggest that the roller is pivotally moved based on the detection of the type of paper involved. Saito discusses lowering the separation roller until the uppermost sheet of originals starts to be conveyed (col. 9, line 68 - col. 10, line 2). Saito does not discuss that the adjustment of the friction member is done based on the detected type of paper, but merely that the roller is raised or lowered by an amount until the

> sheet of paper is detected, and when it is detected, the motor is stopped to fix the position of the separation roller.

The examiner disagrees. As one example, an embodiment is shown in Fig. 10 and described at column 13, lines 33-50, which detects the type of paper i.e., thick or thin paper) and positions the friction member (including 126) based on the detection. The thickness of the paper identifies the type of paper.

Moreover, applicant argues

> Therefore, as Saito does not discuss or suggest "automatically detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up," as recited in independent claim 11 and similarly in independent claims 19, 20, 26 and 32, and Saito does not discuss or suggest "pivotally moving the at least one friction member to the second direction by driving the cam unit, the friction member applying frictional resistance to a leading edge of the sheet of paper," or 'dynamically changing a structure of a friction member and pivotally moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up," as recited in independent claims 11 and 19 and similarly in claims 20, 26 and 32, claims 11, 19, 20, 26 and 32 patentably distinguish over the reference relied upon.

The examiner disagrees. Fig. 10 and column 12, line 52 to column 13, line 50 of Saito et al. discloses automatically detecting (via sensor 133a and 133b or sensor 340 and 350) a type of the sheet of paper to be picked up (i.e., thick or thin paper) and supplying a signal indicative of the type of the sheet of paper to be picked up.

Moreover, Fig. 10 and column 12, line 52 to column 13, line 50 disclose pivotally moving (about 128) the at least one friction member (including 126) to the second

direction by driving the cam unit (including 130), the friction member (including 126) applying frictional resistance to a leading edge of the sheet of paper.

In addition, in as much as Figs. 1-8 of the instant application disclose dynamically changing a structure of a friction member and pivotally moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up, so does Saito et al. See e.g., Fig. 10 and column 12, line 52 to column 13, line 50 of Saito et al. Saito et al. discloses dynamically changing a structure of a friction member (including 126) and pivotally moving (about 128) the friction member (including 126) applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up.

Next, applicant argues

> Claims 12, 21, 23 and 27-28 depend either directly or indirectly from independent claims 11, 19, 20 and 26 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 27 recites that "a frictional resistance applied to the leading edge of the paper by the friction member increases when the angle formed between the friction member and the leading edge of the paper is reduced."

The examiner disagrees. As the gap between the friction member (including 126) and element (125) decreases during clockwise pivoting of the friction member (including 126) about 128, the frictional resistance of the friction member (including 126) increases and the angle formed between the friction member (including 126) and the leading edge of the paper is reduced.

In addition, applicant argues

> Claims 13 and 22 depend from independent claims 11 and 20, respectively, and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 13 recites that "the operation of supplying the signal comprises: supplying a signal from a memory having stored information in relation to the types of paper inputted through a print driver by a user."

The examiner disagrees. As outlined above in the rejection of claims 13 and 22, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the control method of Shin in the environment of the Saito et al. apparatus to have the controller of Saito et al. automatically output a control signal that properly corresponds with the detected paper type from a memory with stored information in relation to the types of paper (i.e., the look-up table in the controller), because this offers a more accurate control method than that of Saito et al. Also, it is the examiner's position that the look-up table of Shin can be considered the stored information in relation to the types of paper inputted through a print driver by a user. Thus, all of the limitations of claim 13 are met.

Allowable Subject Matter

8. Claim 14 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am -5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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10/24/2006

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